

EXHIBIT 7

**WILEY ELECTRICAL AND
ELECTRONICS ENGINEERING
DICTIONARY**

By the same author

English-Spanish, Spanish-English Electrical and Computer Engineering Dictionary, published by John Wiley & Sons, Inc.

Wiley's English-Spanish, Spanish-English Business Dictionary

Wiley's English-Spanish, Spanish-English Chemistry Dictionary

Wiley's English-Spanish, Spanish-English Dictionary of Psychology and Psychiatry

English-Spanish Legal Dictionary, Second Edition, published by Aspen Publishers

WILEY ELECTRICAL AND ELECTRONICS ENGINEERING DICTIONARY

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Lexicographer



IEEE

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PREFACE AND NOTES ON THE USE OF THIS DICTIONARY

This dictionary has over 35,000 entries, each of which occupies a place in one or more of the many areas of expertise encompassed by electrical and electronics engineering. All available sources were consulted, seeking to ascertain the exact manners in which each term is currently utilized. Textbooks, handbooks, treatises, instruction manuals, theses, articles, reports, Usenet postings, and so on, were researched during the process of selecting the terms and writing their definitions, with a good number of entries having multiple provided connotations.

The Internet was used extensively throughout this project, and if one or more persons or entities used a given technical term in the areas covered by this dictionary, there is a decent chance it was taken into consideration. If any given words or phrases were used frequently by multiple people, in varied settings, and when referring to serious endeavors, there is a pretty good chance it can be found in this dictionary. Even so, some terms that continue to appear may not be found here. If a user feels that a given word or phrase not found in this dictionary should be added to a future edition, or wishes to otherwise comment on this book, an email may be sent to the author at: wileyeee@yahoo.com.

There are no special rules for the use of this dictionary. The user simply looks up the desired term to find its definition, plus other practical information when appropriate. When a word or phrase is the same as another, this is clearly stated so as to easily find the definition.

This dictionary could not have been prepared without the contributions of George J. Telecki, Associate Publisher at John Wiley & Sons. He had the idea for this dictionary, suggested the approach and format, and throughout the project provided inestimable support and guidance.

This dictionary has been prepared within the exquisite nature settings of Northwestern Austria. Mr. Wolfgang Gießer is the person who determined that I should be allowed to perform my work as an author in this wonderful country. I am tremendously grateful to him for kindly providing me with the opportunity to live here.

Steven M. Kaplan

*Austria, Europe
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bubble memory

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building-out circuit

system which are linked with arrows and/or lines between them to depict their functional relationships. Such diagrams may show data flow, hardware and software interconnections, and so on.

bubble memory A type of non-volatile computer memory that utilizes materials, such as crystals, to retain a magnetic polarity. This polarity determines whether ones or zeroes are being stored, and with the assistance of permanent magnets, also serves to retain the stored information in case power is cut off. Used primarily for rugged computing circumstances. Also called **bubble storage**, or **magnetic bubble memory**.

bubble sort A sorting technique in which adjacent pairs of items within a list are sequentially compared and ordered, until the entire list has been evaluated. This process is then repeated as many times as required to obtain the correct order. Also called **exchange sort**, or **sifting sort**.

bubble storage Same as **bubble memory**.

bucket In computers, a storage location which may contain more than one record, and which can be referenced as a whole.

bucket-brigade device A semiconductor device in which charges are transferred point-to-point in, sequence, by charge carriers. Used, for instance, as a delay line. Its abbreviation is **BBD**.

bucking coil A coil that connected and positioned in a manner that its magnetic field opposes that of another coil.

bucking voltage A voltage whose polarity is at all times the opposite of that of another voltage.

buckminsterfullerene The most common and stable form of fullerene found to date, consisting of 60 atoms arranged in a manner that resembles a soccer ball. Buckminsterfullerenes are capable of enclosing other atoms, and have applications in various areas, including superconduction and medicine. Also called **buckyball**.

buckyball Same as **buckminsterfullerene**.

buckytube Fullerene that is arranged into a cylindrical shape. It is many times stronger and much lighter than steel, and depending on various factors may be a semiconductor, conductor, or superconductor. Used, for instance, as conducting paths between circuit components on a nanometer scale. Also called **nanotube**.

buddy Within an instant messaging service, a user from which authorization has been obtained, so that the requesting user can see when they are logged-on, in addition to being able to exchange text messages or files, engage in voice or video conferencing, and so on.

buddy list A list of **buddies**, which may comprise friends, colleagues, family members, and so on.

buffer 1. A segment of computer memory utilized to temporarily store information that awaits transfer or processing. Used, for instance, to compensate for differences in operating speeds. Also called **buffer memory**, **buffer storage** (2), or **input buffer**. 2. A circuit, device, or component which helps prevent undesirable interactions between other circuits, devices, or components. 3. An amplifier which isolates successive stages to help prevent undesirable interactions between them. Also called **buffer amplifier**, or **isolation amplifier**.

buffer amplifier Same as **buffer** (3).

buffer capacitor A capacitor which suppresses voltage surges that might otherwise damage other circuit components.

buffer flush 1. To clear all or part of a **buffer** (1). 2. To move the data contained in a **buffer** (1) to a more permanent medium, such as a hard disk.

buffer memory Same as **buffer** (1).

buffer pool A group of memory locations designated as **buffers** (1).

buffer storage 1. A segment of computer storage used to temporarily hold information that awaits transfer. 2. Same as **buffer** (1).

buffer underrun When recording to certain optical discs, such as a CD-R discs, a problem resulting from the buffer holding the data waiting to be recorded being empty. CD-R discs must be recorded using an uninterrupted stream of data, and a buffer is utilized to assist with this requirement. If said buffer empties for any reason, the write process fails and the disc is likely ruined.

buffering 1. The addition of data to a **buffer** (1). 2. Buffering (1) occurring prior to the initiation of streaming multimedia content being accessed remotely. This helps, for instance, to avoid pauses when viewing said content. 3. The use and/or effect of a **buffer**.

bug 1. A persistent error or defect in computer software or hardware. Said especially of one which causes malfunctions. 2. A defect present in a circuit, device, component, or the like, which causes malfunctions. Also called **electronic bug** (1). 3. An electronic device utilized to surreptitiously listen to and/or record conversations. Also called **electronic bug** (2). 4. A semiautomatic telegraph key for producing correctly spaced dots and dashes. Also called **electronic bug** (3).

bug-compatible A version of software and/or hardware which has one or more of same **bugs** (1) as a previous version.

bug fix A change in software and/or hardware intended to remedy a known bug. When not done properly, however, fixing one bug may cause a new one.

bug fix release A software release which remedies one or more known bugs. When provided, software publishers usually hype some trivial enhancement to make it seem like an upgrade. In addition, such releases often introduce new bugs themselves.

bug-for-bug compatible Same as **bug-compatible**, except that special measures have been taken to insure the presence of bugs known to afflict previous versions.

bugging The planting, or use, of a **bug** (3).

build A version of a program which is still undergoing testing. Usually designated by a combination of letters and numbers, such as 1.103b. Sometimes refers to a completed version of a program.

build-up Same as **buildup**.

building block An independent and self contained unit, or module, used within the **building-block approach**.

building-block approach An approach to the design of equipment, systems, programs, and the like, in which independently prepared and self-contained units, or modules, are combined to form the final product. This allows for simultaneously developing and testing the various components, and also helps break down a large and complex system into more manageable parts. Also called **building-block principle**, **building-block technique**, **building-block design**, **modular approach**, or **modular design**.

building-block design Same as **building-block approach**.

building-block principle Same as **building-block approach**.

building-block programming Computer programming utilizing **building blocks**. All units, or modules, must incorporate certain common parameters, such as having compatible interfaces. This facilitates collaborative efforts to expand and improve current product offerings. Object-oriented programming evolved from this approach.

building-block technique Same as **building-block approach**.

building-out circuit A short section of a transmission line that is shunted across another transmission line for purposes of impedance matching and tuning. Also called **building-out section**.